OLYMPUS®

REPROCESSING MANUAL

INSTRUCTIONS

SIGMOIDOFIBERSCOPE

OLYMPUS OSF-3

Refer to the endoscope's companion manual, the "OLYMPUS OSF-3 OPERATION MANUAL" for inspection and operation information.

USA: CAUTION: Federal law restricts this device to sale by or on the order of a physician.

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Symbols

The meaning(s) of the symbol(s) shown on the back cover of this instruction manual are as follows:

Manufacturer

Authorized representative in the European Community

Chapter 1 General Policy

1.1 Instructions

- Chapters 1 through 4 describe recommended procedures and equipment for cleaning and disinfection or sterilization of this instrument.
- Thoroughly review the manuals of all equipment which will be used with this instrument and use the equipment as instructed.
- If you have any questions or comments about any information in this manual, or if a problem that cannot be solved occurs while reprocessing, contact Olympus.
- The medical literature reports incidents of patient cross contamination resulting from improper cleaning, disinfection or sterilization. It is strongly recommended that reprocessing personnel have a thorough understanding of and follow all national and local hospital guidelines and policies.
  A specific individual or individuals in the endoscopy unit should be responsible for reprocessing endoscopic equipment. It is highly desirable that a trained backup be available should the primary reprocessing individual(s) be absent.
- All individuals responsible for reprocessing should thoroughly understand:
  - your institution’s reprocessing procedures
  - occupational health and safety regulations
  - national and local hospital guidelines and policies
  - the instructions in this manual
  - the mechanical aspects of endoscopic equipment
  - pertinent germicide labeling

1.2 Signal Words

The following signal words are used throughout this manual:

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices or potential equipment damage.

NOTE

Indicates additional helpful information.

1.3 Precautions

WARNING

- Failure to properly clean and high-level disinfect or sterilize endoscopic equipment after each examination can compromise patient safety. During use, the instrument normally comes in contact with intact mucous membranes. To minimize the risk of transmitting diseases from one patient to another, after each examination the endoscope must undergo thorough manual cleaning followed by high-level disinfection or sterilization after each examination.
- ALL channels of the endoscope MUST be cleaned and high-level disinfected or sterilized during EVERY reprocessing cycle, even if the channels were not used during the previous patient procedure. Otherwise, insufficient cleaning and disinfection or sterilization of the endoscope may pose an infection control risk to the patient and/or operators performing the next procedure with the endoscope.
- If the endoscope is not cleaned meticulously, effective disinfection (or sterilization) may not be possible. Clean the endoscope and accessories thoroughly before disinfection or sterilization to remove microorganisms or organic material that could hamper disinfection or sterilization efficiency.

- Olympus confirms validation of the endoscope reprocessors recommended by Olympus only. If using endoscope reprocessor that are not recommended by Olympus, the endoscope reprocessor manufacturers are responsible for validation of the endoscope reprocessor with the endoscope models listed in its intended use statement. If using an endoscope reprocessor, confirm that it is capable of reprocessing endoscope including all channels. If there are channels and/or other parts which cannot be cleaned and high-level disinfected by the endoscope reprocessor, have to undergo manual cleaning and high-level disinfection or sterilization as described in Chapter 3, “Cleaning, Disinfection and Sterilization Procedures” after using the endoscope reprocessor. Otherwise, insufficient cleaning and disinfection or sterilization of the endoscope may pose an infection control risk to the patient and/or operators performing the next procedure with the endoscope. If you are uncertain as to the ability of your endoscope reprocessor to clean and high-level disinfect endoscope including all channels, contact the endoscope reprocessor supplier for specific instructions and/or connectors.
- Patient debris and reprocessing chemicals are hazardous. Wear personal protective equipment to guard against dangerous chemicals and potentially infectious material. During cleaning and disinfection (or sterilization), wear appropriate personal protective equipment, such as eye wear, face mask, moisture-resistant clothing and chemical-resistant gloves that fit properly and are long enough so that your skin is not exposed. Always remove contaminated protective clothing before leaving the cleaning area.
- Thoroughly rinse off the disinfectant solution. Rinse the outer surface of the endoscope, channels and cleaning equipment thoroughly with water to remove the disinfectant solution residue.
- The disinfection/sterilization room must be adequately ventilated. Adequate ventilation protects against the buildup of toxic chemical fumes.
- Store alcohol in an air-tight container. Alcohol stored in an open container may cause fires and will lose its efficacy due to evaporation.

- With the cleaning, disinfection and sterilization methods stated in this instruction manual, prions, which are considered to be the pathogenic substance of the Creutzfeldt-Jakob disease (CJD) cannot be destroyed or inactivated. When using this instrument on a patient with CJD or variant Creutzfeldt-Jakob disease (vCJD), be sure to use this product for such patient only and/or immediately dispose of this product after use in an appropriate manner. For methods to handle CJD, please follow the respective guidelines in your country.
- This instrument is not durable, or does not have sufficient durability against the respective methods stated in the guidelines of each country for destroying or inactivating prions. For information on the durability against each method, please contact Olympus. If cleaning, disinfection and sterilization methods not stated in this instruction manual are performed, Olympus cannot guarantee the effectiveness, safety and durability of this instrument. Make sure to confirm that there is no abnormality before use, and use under responsibility of a physician. Do not use if any abnormality is found.

CAUTION

- When aerating or irrigating the endoscope channels, the air or water pressure must not exceed 0.2 MPa (2 kgf/cm^2, 29 psig).
- Make sure that the ETO Cap is not installed on the Venting Connector before immersion in reprocessing fluids.

Chapter 2 Compatible Reprocessing Methods and Chemical Agents

2.1 Compatibility Summary

Olympus endoscopic equipment is compatible with several methods of reprocessing. Certain components and accessories, however, are not compatible with some methods, which can cause damage. For appropriate reprocessing methods, refer to Table 2.1 below, the recommendations of your infection control committee and national and local hospital guidelines and policies.

	Steam Sterilization (Autoclave)	ETO Gas Sterilization	2 to 3.2% Glutaraldehyde	70% Ethyl or Isopropyl Alcohol	Detergent Solution	Ultrasonic Cleaning
Endoscope		■	■	■	■	
Channel Cleaning Brush (BW-20T) **Channel-opening Cleaning Brush (MH-507)**	■	■	■	■		■
Air/Water Valve (MB-196) **Suction Valve (MB-197)**	■	■	■	■	■	
All-Channel Irrigator (CW-3) **Channel Cleaning Adapter (MB-19)** **AW Channel Cleaning Adapter (MB-107)**	■	■	■	■	■	
Biopsy Valve (MB-358)	■	■	■	■	■	■
ETO Cap (MB-156)					■	

■ **applicable** **not applicable**

Table 2.1

NOTE

Endo-Therapy Accessories and other items which are marked by the words “AUTOCLAVE” or “AUTOCLAVABLE”, a green band or yellow-green marking are compatible with autoclaving.

2.2 Detergent Solution

Use a medical-grade low-foaming, neutral pH detergent or enzymatic detergent and follow the manufacturer's dilution and temperature recommendations. Contact Olympus for the names of specific brands that have been tested for compatibility with the endoscope. Do not reuse detergent solutions.

WARNING

Excessive detergent foaming can prevent fluid from adequately contacting internal lumens (e.g. channels).

2.3 Disinfectant Solution

In the U.S., agents used to achieve high-level disinfection are defined as liquid chemical germicides registered with the U.S. Food and Drug Administration as "sterilant/disinfectants" which are used according to the time, temperature and dilution recommended by the disinfectant manufacturer for achieving high-level disinfection. These conditions usually coincide with those recommended by the disinfectant manufacturer for 100% kill of Mycobacterium tuberculosis.

In general, 2.0% to 3.2% glutaraldehyde solutions, when used according to the manufacturer's instructions for achieving high-level disinfection, are compatible with Olympus endoscopes. Contact Olympus for the names of specific brands that have been tested for compatibility with this endoscope.

If the disinfectant solution is reused, routinely check its efficacy with a test strip recommended by the manufacturer. Do not use solutions beyond their expiration date.

WARNING

Alcohol is not a sterilant or high-level disinfectant.

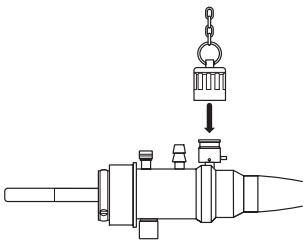
2.4 Rinsing Water

Once removed from the disinfectant solution, the instrument must be thoroughly rinsed with sterile water to remove any disinfectant residue. If sterile water is not available, clean potable tap water or water which has been processed (e.g. filtered) to improve its microbiological quality may be used.

When non-sterile water is used after manual or automated disinfection, wipe the endoscope and flush the channels with 70% ethyl or isopropyl alcohol, then air-dry all internal channels to inhibit the growth of residual bacteria. Do not use rinsing water.

2.5 ETO Gas Sterilization

This instrument or other accessories compatible with ETO gas sterilization as shown in Table 2.1 can be sterilized by ethylene oxide gas and aerated within the parameters given in Tables 2.2 and 2.3. When performing sterilization, follow the hospital's protocol and the sterilization equipment manufacturer's instructions.



The ETO Cap must be attached to the Venting Connector on the Scope Connector prior to ETO gas sterilization.

Figure 2.1

WARNING

- Before sterilization, the instrument must be thoroughly cleaned and dried. Residual moisture inhibits sterilization.

- The results of sterilization depend on various factors such as how the sterilized instrument was packed or the positioning, method of placing and loading of the instrument in the sterilization device. Please verify the sterilization effects by using biological or chemical indicators. Also follow the guidelines for sterilization issued by medical administrative authorities, public organizations or the infection management sections at each medical facility, as well as the instruction manual of the sterilization device.
- All instruments must be properly aerated following ETO gas sterilization to remove toxic ethylene oxide residuals.

CAUTION

- Install the ETO Cap on the Venting Connector of the Endoscope Connector before ETO gas sterilization as shown in Figure 2.1. If ETO gas sterilization is performed while the ETO Cap is removed, air inside the Endoscope will expand and could rupture the covering of the Bending Section.
- Repeated ETO gas sterilization procedures will gradually deteriorate the instrument. Do not ETO gas sterilize the instrument unnecessarily.

NOTE

ETO gas sterillization is not permitted in some European countries.

For USA

ETO Gas Exposure Parameters (Gas mixture 12% ETO/88% CFC)

Process	Parameters	
ETO Gas Sterilization	**Temperature**	57°C (135°F)
	Pressure	0.1 to 0.17 MPa (1 to 1.7 kgf/cm^2) (16 to 24 psig)
	Humidity	55%
	Exposure Time	1.75 hours
	ETO Gas Concentration	600 to 700 mg/l
Aeration (Minimum)	12 hours in an aeration chamber at 50 to 57°C (122 to 135°F) or 7 days at room temperature	

Table 2.2

❍ For Countries Other Than the United States

ETO Gas Exposure Parameters (Gas mixture 20% ETO/80% CO_2)

Process	Parameters	
ETO Gas Sterilization	**Temperature**	57°C (135°F)
	Pressure	0.1 to 0.17 MPa (1 to 1.7 kgf/cm^2) (16 to 24 psig)
	Humidity	55%
	Exposure Time	1.75 hours
	ETO Gas Concentration	600 to 700 mg/l
Aeration (Minimum)	12 hours in an aeration chamber at 50 to 57°C (122 to 135°F) or 7 days at room temperature	

Table 2.3

2.6 Steam Sterilization (Autoclaving) of Accessories

These accessories listed as compatible with steam sterilization (autoclaving) in Table 2.1 can be sterilized by steam within the parameters given in Table 2.4. When steam sterilizing, follow the hospital's protocol and the sterilization equipment manufacture's instructions.

WARNING

- Exceeding the recommended parameters may cause equipment damage.
- The results of sterilization depend on various factors such as how the sterilized instrument was packed or the positioning, method of placing and loading of the instrument in the sterilization device. Please verify the sterilization effects by using biological or chemical indicators. Also follow the guidelines for sterilization issued by medical administrative authorities, public organizations or the infection management sections at each medical facility, as well as the instruction manual of the sterilization device.

CAUTION

- Do not steam sterilize the endoscope. Steam sterilization (autoclaving) will severely damage the endoscope.
- Effective sterilization will not be possible if items are packed tightly together in the autoclave; always pack items loosely.

- Inspect the instrument package for openings, tears and other damage. If the instrument package is open or damaged, seal the components in new packaging and re-sterilize as described below.
- Allow the packages to dry within the autoclave, using the autoclave's drying cycle (if available) or by opening the door of the autoclave and allowing the packages to air dry. Handling a wet package can compromise its sterility.

NOTE

Endo-Therapy Accessories and other items which are marked by the words "AUTOCLAVE" or "AUTOCLAVABLE", a green band or yellow-green marking are compatible with autoclaving.

	Temperature	**Exposure Time**
Prevacuum	132 to 134°C (270 to 274°F)	5 minutes

Table 2.4

Chapter 3 Cleaning, Disinfection and Sterilization Procedures

WARNING

ALL channels of the endoscope MUST be cleaned and high-level disinfected or sterilized during EVERY reprocessing cycle, even if the channels were not used during the previous patient procedure. Otherwise, insufficient cleaning and disinfection or sterilization of the endoscope may pose an infection control risk to the patient and/or operators performing the next procedure with the endoscope.

3.1 Required Reprocessing Equipment

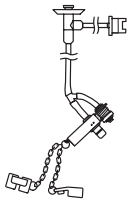
Preparation of the Equipment

Prior to cleaning, disinfection or sterilization, prepare the equipment shown in Figure 3.1.

CAUTION

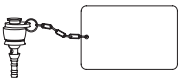
Use basins which are at least 40 cm by 40 cm (16” by 16”) in size and deep enough to allow the endoscope to be completely immersed. Do not wrap the endoscope’s Insertion Tube and Universal Cord into a coil with a diameter smaller than 40 cm. The endoscope can be damaged if coiled too tightly.

Channel Cleaning Brush (BW-20T)



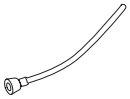
All-channel Irrigator (CW-3)

Channel-opening Cleaning Brush (MH-507)

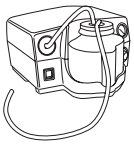


AW Channel Cleaning Adapter (MB-107)

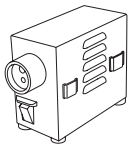
ETO Cap (MB-156)



Channel Cleaning Adapter (MB-19)



Suction Pump (KV-4)



Maintenance Unit (MU-1, sold separately)

Biopsy Valve (MB-358)

Leakage Tester (MB-155, sold separately)

- **Detergent Solution**
- **Rinsing Water**
- **70% ethyl or isopropyl Alcohol**
- **Disinfectant Solution**
- **Large non-metallic Basin with a Tight Fitting Lid for Detergent and Disinfectant solution**
- **Large Basin for Rinsing**
- **Large Basin for Leakage Testing**
- **30 cm^3 (30 ml) Syringe**
- **Personal Protective Equipment**
- **Soft brush**
- **Lint-free Cloth**

Figure 3.1

Reprocessing Equipment Parts and Functions

For inspection of other equipment than that mentioned below, refer to the instruction manual for the equipment being used.

❍ All-channel Irrigator (CW-3)

Used to plug the openings of the Instrument Channel Port, Air/Water Cylinder, and Suction Cylinder during cleaning. Used to inject detergent solution, disinfectant solution and sterile water into the Air/Water and Suction Channels and to flush air through channels to expel fluids (see Figure 3.2).

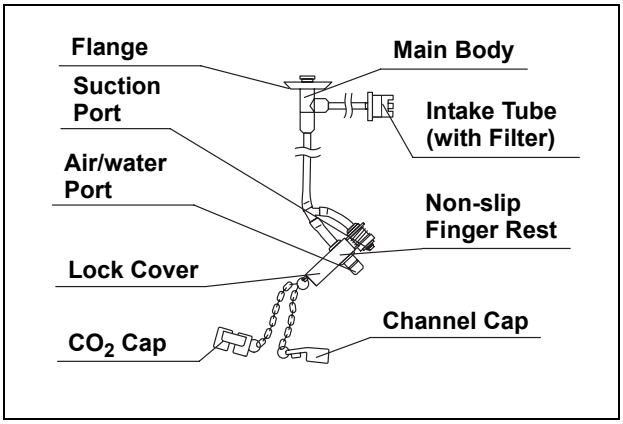


Figure 3.2

❍ Channel Cleaning Brush (BW-20T)

The Channel Cleaning Brush is used to brush the inside of the suction channel and the holes in the Air/Water and Suction Valves (see Figure 3.3).

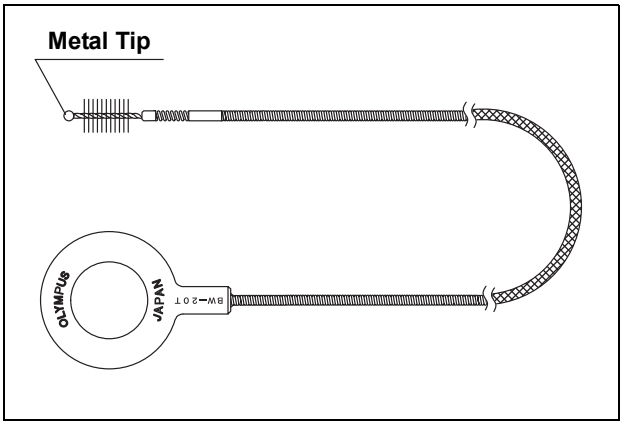


Figure 3.3

❍ ETO Cap (MB-156)

Installed on the Venting Connector of the Endoscope Connector to allow ETO gas sterilization (see Figure 3.4).

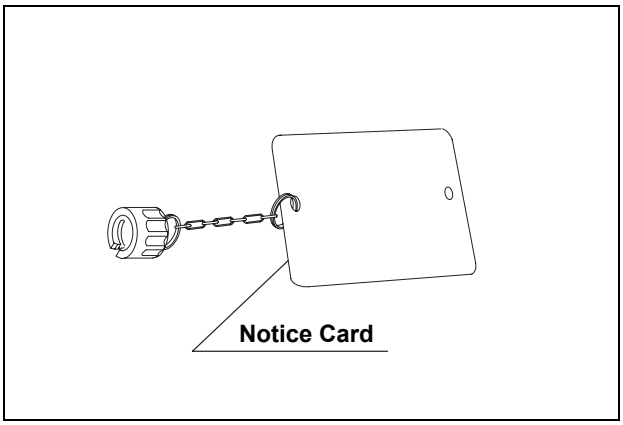


Figure 3.4

❍ Channel-opening Cleaning Brush (MH-507)

The Channel-opening Cleaning Brush is used to brush the outer surface of the Distal End of the endoscope, the Suction Cylinder and the Instrument Channel Opening (see Figure 3.5).

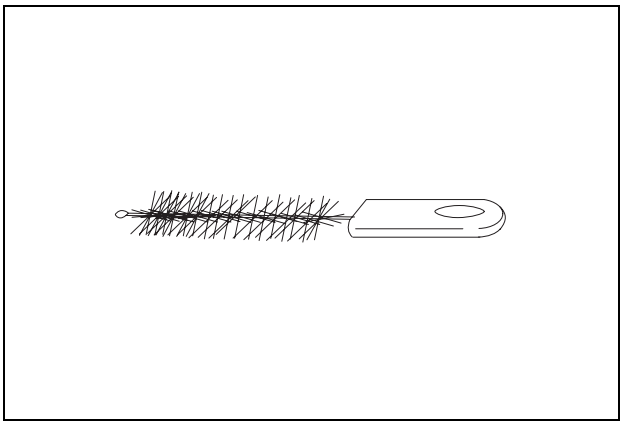


Figure 3.5

❍ Channel Cleaning Adapter (MB-19)

Used to aspirate reprocessing fluids from the Distal End of the endoscope through the Instrument Channel (see Figure 3.6).

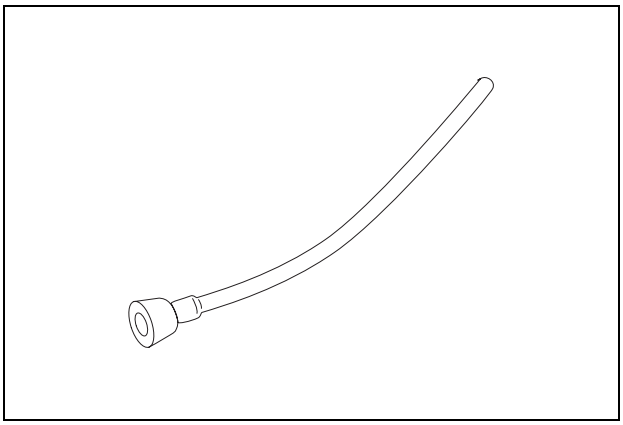


Figure 3.6

❍ AW Channel Cleaning Adapter (MB-107)

For preclearing ONLY. Connects to the Air/Water Valve port. When the adapter valve is depressed, water is fed through the Air/Water channel. Air is continuously fed when the adapter valve is not depressed (see Figure 3.7).

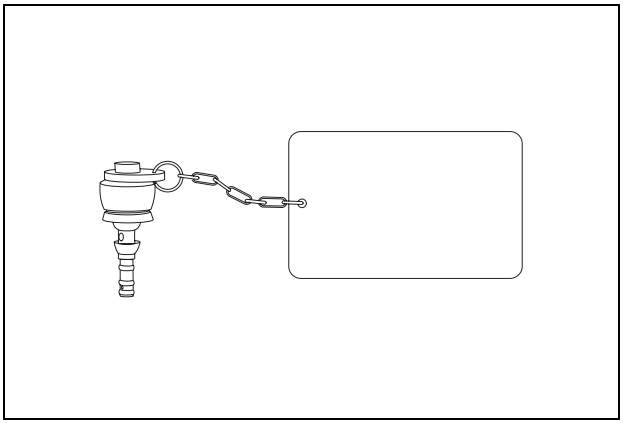


Figure 3.7

Inspection of Equipment

For inspection of other equipment than that mentioned below, refer to the instruction manual for the equipment being used.

CAUTION

The cleaning brushes are consumable items. Should the slightest irregularity be suspected, use a spare instead. Using a defective brushes may cause equipment damage.

Inspection of the All-channel Irrigator

1. Check all components of the All-channel Irrigator Tube for cracks, scratches, flaws and debris (see Figure 3.2).
2. Check that the Filter is in the Intake Tube.
3. Attach the 30 cm^3 (30 ml) syringe to the Main Body. With the filter mesh immersed in rinsing water, withdraw the syringe plunger and confirm that rinsing water is drawn into the syringe.
4. Continuing from step 3. depress the plunger and confirm that rinsing water is emitted from the part of Suction Port and Air/water Port.

Inspection of the Channel Cleaning Brushes

1. Check that the brush section and the Metal Tip of the distal end are securely in place. Check for the loose or missing bristle (see Figure 3.3).
2. Check for bends, scratches and other damage to the shaft.
3. Check for debris on the shaft and/or in the bristles of the brush.

Inspection of the ETO Cap

Check for cracks, scratches, flaws, debris and other damage (see Figure 3.4).

Inspection of the Channel-opening Cleaning Brush

1. Check for loose or missing bristles (see Figure 3.5).
2. Check for debris on the shaft and/or in the bristles of the brush.

Inspection of the Channel Cleaning Adapter

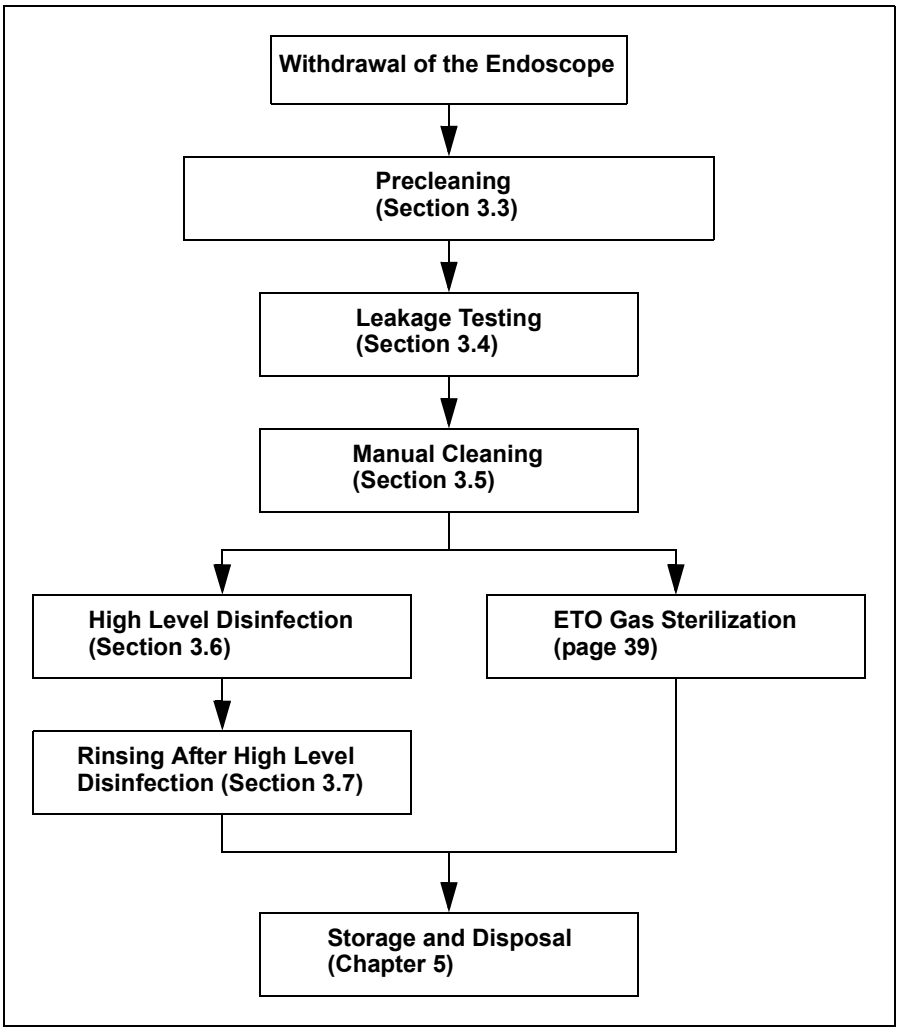
Check for cracks, scratches, flaws, debris and other damage (see Figure 3.6).

Inspection of the AW Channel Cleaning Adapter

Check for cracks, scratches, flaws, debris and other damage (see Figure 3.7).

3.2 Cleaning, Disinfection and Sterilization Procedures

Endoscope Reprocessing Summary Chart



WARNING

ALL channels of the endoscope MUST be cleaned and high-level disinfected or sterilized during EVERY reprocessing cycle, even if the channels were not used during the previous patient procedure. Otherwise, insufficient cleaning and disinfection or sterilization of the endoscope may pose an infection control risk to the patient and/or operators performing the next procedure with the endoscope.

3.3 Precleaning

WARNING

- If the endoscope is not precleaned immediately, residual organic debris will begin to solidify and it may be difficult to effectively reprocess the endoscope.
- Turn the endoscope's illumination OFF immediately after the examination. The temperature at the Distal End of an illuminated endoscope may exceed 41°C (106°F) and reach 50°C (122°F) due to intense endoscopic illumination. Surface temperature above 41°C (106°F) may cause burns.

Preclean the endoscope at the bedside in the procedure room immediately following the procedure. These steps are to be performed when the Light Source and Suction Pump are turned ON and still connected to the endoscope.

Equipment Needed

Prepare the following equipment:

- Personal Protective Equipment
- Clean, Lint-free Cloth
- 500 cm^3 (500 ml) Container of Detergent Solution
- AW Channel Cleaning Adapter (MB-107)

Wipe Down the Insertion Tube

CAUTION

Handle the Insertion Tube carefully. Tightly gripping or sharply bending the Insertion Tube or Bending Section can stretch or severely damage the Insertion Tube and the covering of the Bending Section.

1. Prepare the detergent solution in a 500 cm^3 (500 ml) container.
2. Wipe the entire Insertion Tube with a clean, lint-free cloth soaked in detergent solution. Begin wiping from the Boot toward the Distal End.

Aspirate Detergent Solution

CAUTION

Monitor the bottle on the Suction Pump carefully to ensure that it does not overflow, as this could result in damage to the Suction Pump.

1. Turn the Suction Pump power switch ON.
2. Immerse the Distal End of the Insertion Tube in the detergent solution. Depress the Suction Valve and aspirate detergent solution into the instrument channel for 30 seconds (see Figure 3.8).
3. Remove the Distal End of the Insertion Tube from the detergent solution. Depress the Suction Valve and aspirate air for 10 seconds.
4. Turn the Suction Pump OFF.

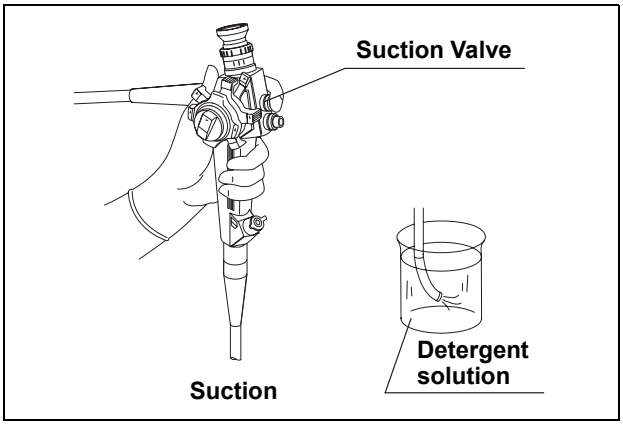


Figure 3.8

Flush Water and Air Into the Air/Water Channel

WARNING

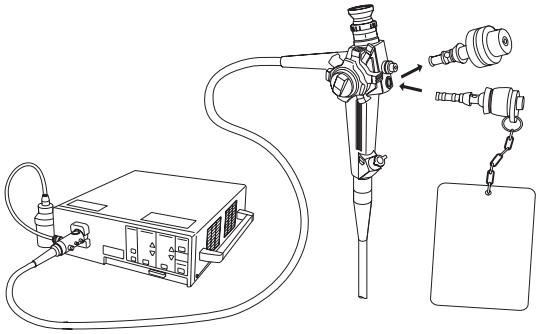
Do not use the AW Channel Cleaning Adapter (MB-107) for patient examinations. It will cause continuous insufflation and could result in patient injury.

CAUTION

To prevent blocking the Air/Water Nozzle, always use the AW Channel Cleaning Adapter (MB-107) to clean the Air/Water Channel after each use.

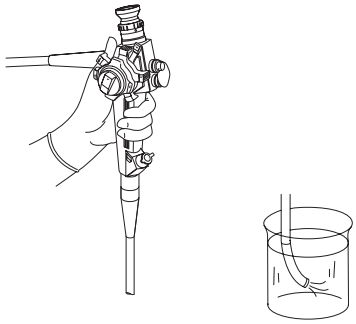
1. Set the Airflow Switch on the Light Source to “OFF”.
2. Remove the Air/Water Valve from the endoscope and place it in a container of detergent solution.

3. Attach the AW Channel Cleaning Adapter to the Air/Water Cylinder of the endoscope (see Figure 3.9).
4. Turn the Light Source ON and if the Light Source has the Airflow Switch, set the switch to maximum (“HIGH” or “3”).
5. Depress the AW Channel Cleaning Adapter to feed water through the channels for about 30 seconds. Release the valve to feed air through the channels for 10 seconds or more (see Figure 3.10).
6. Turn the Light Source OFF.



Detach Air/Water Valve and attach AW Channel Cleaning Adapter.

Figure 3.9



Alternately feed water and air.

Figure 3.10

Disconnect the Endoscope, Removable Parts and Cleaning Equipment

1. Disconnect the AW Channel Cleaning Adapter, Suction Valve, and Biopsy Valve from the endoscope and place them in the container of detergent solution. Clean, disinfect and sterilize the items according to the instructions in Section 3.9, “Cleaning, Disinfection and Sterilization Procedures for Removable Parts and Cleaning Equipment”.
2. Disconnect the Water Container Tube from the endoscope.
3. Disconnect the Suction Tube from the Suction Connector of the Endoscope Connector.
4. Disconnect the Endoscope Connector from the Light Source.

WARNING

Do not touch the Light Guide immediately after removing it from the Light source because it is extremely hot.

5. Transport the endoscope and the container holding the valves to the reprocessing area.

3.4 Leakage Testing

After precleaning, leakage testing the endoscope to ensure that the endoscope is waterproof.

Equipment Needed

Prepare the following equipment:

- Personal Protective Equipment
- Large Basins
- Maintenance Unit or Light Source (MU-1) or (CLK-4)
- Leakage Tester (MB-155)

CAUTION

- Never connect or disconnect the Leakage Tester (MB-155) connector cap while immersed. Doing so could allow water to enter the endoscope and may damage the endoscope.
- Rotate the Leakage Tester connector cap until it stops. If it is not fully and properly attached, the endoscope’s interior will not be pressurized and accurate leakage testing will be impossible.

- During leakage testing, a continuous series of bubbles emerging from a location on the endoscope indicates a leak at that location. This means that water will be able to penetrate inside the endoscope. If you locate a leak, remove the endoscope from the water and contact Olympus.

NOTE

When the Leakage Tester connector is in place, the covering of the Bending Section will expand as air pressure inside the endoscope increases. This is normal.

Leakage Testing

CAUTION

- Always disconnect the Leakage Tester connector from the Light Source or Maintenance Unit and before detaching the Leakage Tester connector cap from the Venting Connector. Detaching the Leakage Tester connector cap from the venting connector while the Leakage Tester is still connected to the Light Source will not allow the endoscope to depressurize properly and may damage the endoscope.
- When attaching the Leakage Tester's Connector Cap to the Water-resistant Cap's Venting Connector, make sure that the inside of the Leakage Tester's Connector Cap and the outside of the Water-resistant Cap's Venting Connector are thoroughly wipe and dry. Water remaining on either component may penetrate the inside of the Water-resistant Cap and could cause endoscope malfunction.

1. Fill a basin with water. Use a basin which is at least 40 cm by 40 cm (16" by 16") in size and deep enough to allow the endoscope to be completely immersed.
2. Insert the Leakage Tester connector into the output socket of the Maintenance Unit or the Light Source. If the Light Source has the Airflow Switch, set the switch to "HIGH" or "3".
3. Confirm that the Leakage Tester is emitting air by gently depressing the pin located inside the Leakage Tester Connector cap.

4. Install the Leakage Tester Connector cap on the Venting Connector of the Endoscope Connector (see Figure 3.11).

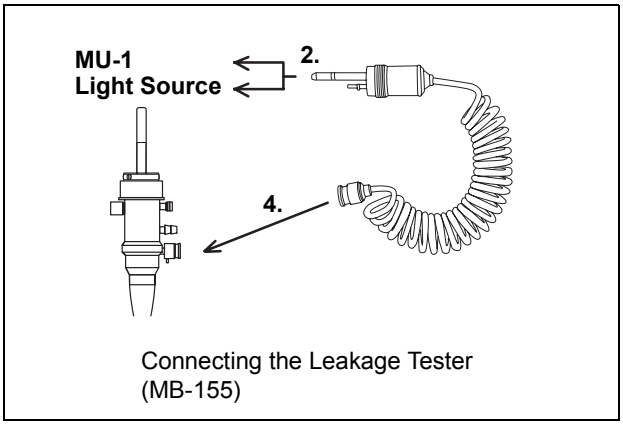


Figure 3.11

5. With the Leakage Tester connected, immerse the endoscope in water and observe for approximately 30 seconds while angulating the Bending Section of the endoscope. Confirm that there is no location on the endoscope from which a continuous series of bubbles emerges.
6. Remove the endoscope from the basin.
7. Turn the Maintenance Unit or the Light Source OFF.
8. Disconnect the Leakage Tester from the Maintenance Unit or Light Source.
9. Wait 30 seconds, or until the covering of the Bending Section contracts to its pre-expansion size. Disconnect the Leakage Tester connector cap from the venting connector.
10. Thoroughly dry the Leakage Tester.

3.5 Manual Cleaning

After completing the leakage test, perform manual cleaning according to the procedures described below.

Equipment Needed

Prepare the following equipment:

- Personal Protective Equipment
- Large Basins
- Soft-bristled Tooth brush
- Clean, Lint-free Cloth
- Low-foaming Detergent Solution
- Clean water
- Channel Cleaning Adapter (MB-19)
- AW Channel Cleaning Adapter (MB-107)
- All-channel Irrigator (CW-3)
- Channel Cleaning Brush (BW-20T)
- Channel-opening Cleaning Brush (MH-507)

CAUTION

To prevent damage to the endoscope, never immerse it together with objects other than the cleaning accessories.

Cleaning the Outer Surface

1. Fill a basin with water and low-foaming detergent solution at a temperature and concentration recommended by the manufacturer. Use a basin which is at least 40 cm by 40 cm (16” by 16”) in size and deep enough to allow the endoscope to be completely immersed.
2. Immerse the endoscope and transfer the AW Channel Cleaning Adapter, Air/Water and Suction Valves and Biopsy Valve in the basin with detergent solution.
3. With the endoscope immersed, use a soft brush or lint free cloth to thoroughly brush and wipe all outside surfaces of the endoscope. Pay particular attention to the Air/Water Nozzle opening and ensure that all surfaces of the Distal End are cleaned thoroughly (see Figure 3.12).

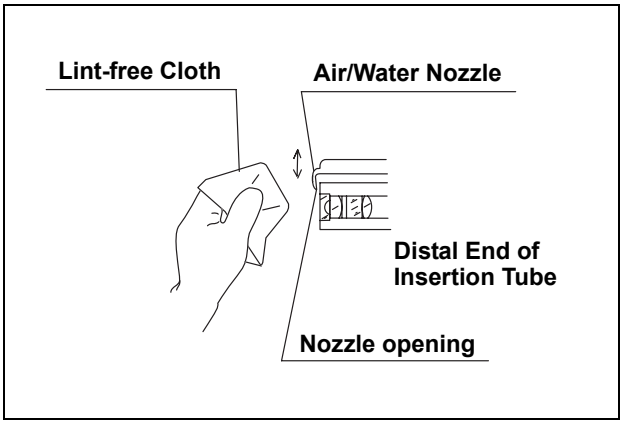


Figure 3.12

Brushing the Channels

WARNING

- To avoid splattering of detergent solution when the Channel Cleaning Brush is pulled out, keep the endoscope submerged.
- The channel cleaning brush is an item that is subject to wear. Repeated using may cause the brush head being bent or kinked, as a result the brush head may be come off. Confirm that the brush is free from any damages or other irregularities before and after each use. If the brush head comes off after brushing, immediately retrieve it and carefully check that it is not left inside the channel of the endoscope by passing a new cleaning brush or other endo-therapy accessories. If the brush head is left in the channel, it can drop into the patient body during the procedure.
  Depending on the staying location, the missing part may not be recoverable by passing a new brush or other endo-therapy accessories. In this case, contact Olympus.

CAUTION

Withdraw the Channel Cleaning Brush from the Suction Channel gently, ensuring its shaft does not rub against the external opening of the Suction Cylinder, as this may damage the brush and may wear a groove in the opening, leading to impaired suction and liquid leakage.

While the endoscope is submerged, brush the Instrument/Suction Channel, Suction Cylinder and Instrument Channel Port in the following order (see Figure 3.13).

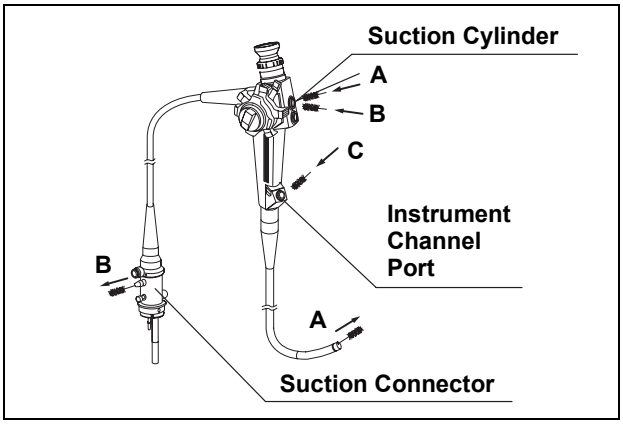


Figure 3.13

❍ Brushing the Suction Channel in the Insertion Tube (Location A)

1. Straighten the endoscope's Bending Section. Grip the Channel Cleaning Brush (BW-20T) 3 cm from the bristles.
2. Insert the Channel Cleaning Brush at a 45° angle into the opening located in the side wall of the Suction Cylinder as illustrated by A in Figure 3.13. Using short strokes, feed the brush through the Insertion Tube until it emerges from the Distal End of the endoscope.
3. Clean off the bristles with your fingertips in the detergent solution. Carefully pull the brush back through the channel.
4. Clean off the bristles in the detergent solution again.
5. Repeat until all debris is removed.

❍ Brushing the Suction Channel in the Universal Cord (Location B)

1. Grip the Channel Cleaning Brush 3 cm from the bristles.
2. Insert the Channel Cleaning Brush straight into the upper opening located in the back of the Suction Cylinder as illustrated by B in Figure 3.13. Using short strokes, feed the brush through the Universal Cord until it emerges from the Suction Connector on the Endoscope Connector.
3. Clean off the bristles with your fingertips in the detergent solution. Carefully pull the brush back through the channel.
4. Clean off the bristle in the detergent solution again.
5. Repeat until all debris is removed.

❍ Brushing the Suction Cylinder

CAUTION

When inserting the Channel-opening Cleaning Brush into the Suction Cylinder, do not forcibly insert the brush beyond the middle of the brush section. Otherwise, the brush may become stuck in the Suction Cylinder.

1. Insert the Channel-opening Cleaning Brush into the Suction Cylinder holes as illustrated by A to B in Figure 3.13 until half of the brush section is inserted.
2. Turn the inserted brush once.
3. Pull the brush back and clean off the debris in the detergent solution.
4. Repeat until all debris is removed.

❍ Brushing the Instrument Channel Port (Location C)

1. Insert the Channel-opening Cleaning Brush into the Instrument Channel Port until the brush handle hits the channel opening as illustrated by C in Figure 3.13. Turn the brush once.
2. Pull the brush back and clean off the bristle in the detergent solution.
3. Repeat until all debris is removed.
4. Soak cleaning brushes (MH-507 and BW-20T) in detergent solution, then reprocess the brushes as described in Section 3.9, “Cleaning, Disinfection and Sterilization Procedures for Removable Parts and Cleaning Equipment”.

Aspirating Detergent Solution Into the Suction Channel

1. Attach the Channel Cleaning Adapter to the Adapter for Instrument Channel Port (see Figures 3.14 and 3.15).
2. Attach the Suction Tube from the Suction Pump to the Suction Connector on the Endoscope Connector of the endoscope. Turn the Suction Pump ON.
3. Immerse both the endoscope's Distal End and the end of the Channel Cleaning Adapter in detergent solution.
4. Depress the Suction Valve and aspirate detergent solution for approximately 30 seconds.
5. Turn the Suction Pump OFF.
6. Disconnect the Suction Tube and remove the Channel Cleaning Adapter and the Adapter for Instrument Channel Port. Soak them in the detergent solution, then reprocess them as described in Section 3.9, "Cleaning, Disinfection and Sterilization Procedures for Removable Parts and Cleaning Equipment".

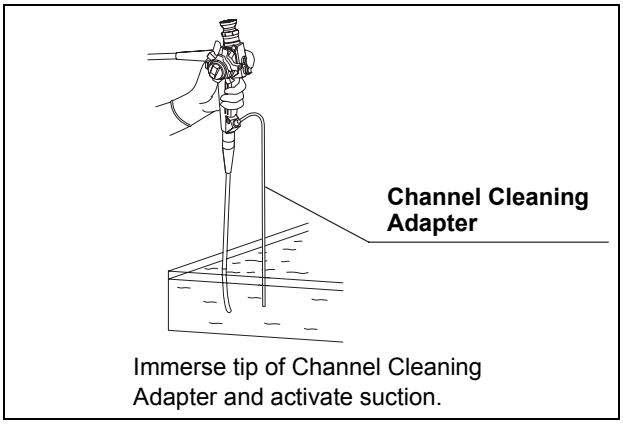


Figure 3.14

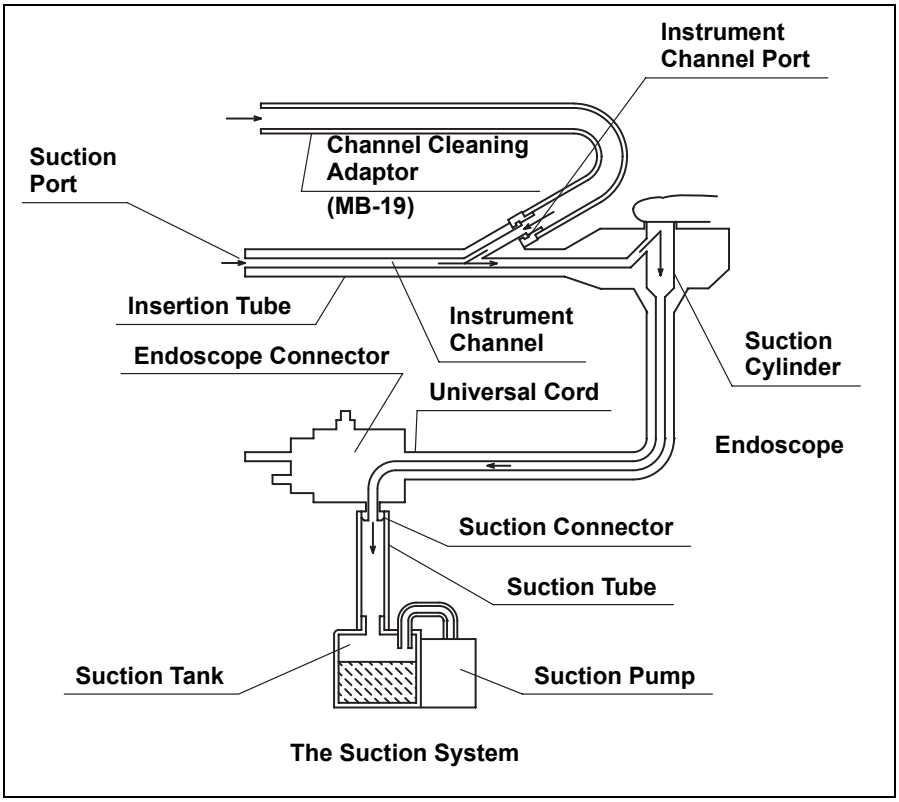


Figure 3.15

Flushing Detergent Solution Into Air/Water Channels

Using the All-channel Irrigator (CW-3) and the 30 cm^3 (30 ml) syringe, irrigate the air and water channels according to the procedure described below.

NOTE

The models such as the Channel Plug (MH-944) and the Injection Tube (MH-946) cannot be used. Using such models may result in instrument damage.

1. Attach the All-channel Irrigator's Channel cap to the Instrument Channel Port (see Figure 3.16).
2. Attach the All-channel Irrigator's Lock cover to the Air/Water and Suction Cylinders (see Figure 3.16).

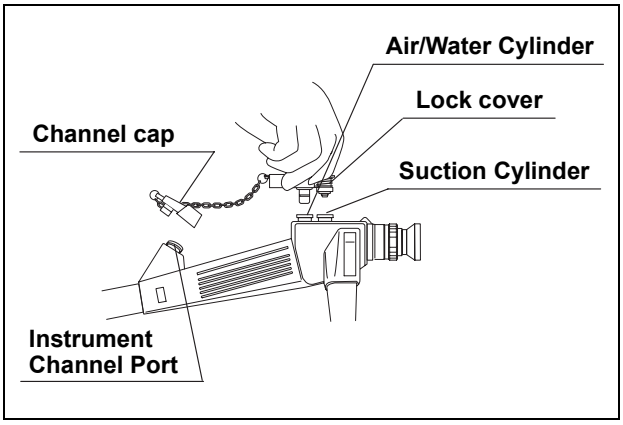


Figure 3.16

3. Immerse the Filter of the Intake Tube in the detergent solution.
4. Attach the 30 cm^3 (30 ml) syringe to the Main Body's Luer-lock.
5. Using the 30 cm^3 (30 ml) syringe, inject 150 cm^3 (150 ml) of detergent solution into the Air/Water and Suction Channel to flush the channels.
6. Disconnect the All-channel Irrigator from the Endoscope, and leave all items immersed.

NOTE

The Luer lock of the syringe will provide a secure connection. However, do not use excessive force when connecting it, as the Luer lock on the Main Body may be damaged. In addition, do not hold the Intake Tube's port when operating the syringe, as this part may be damaged.

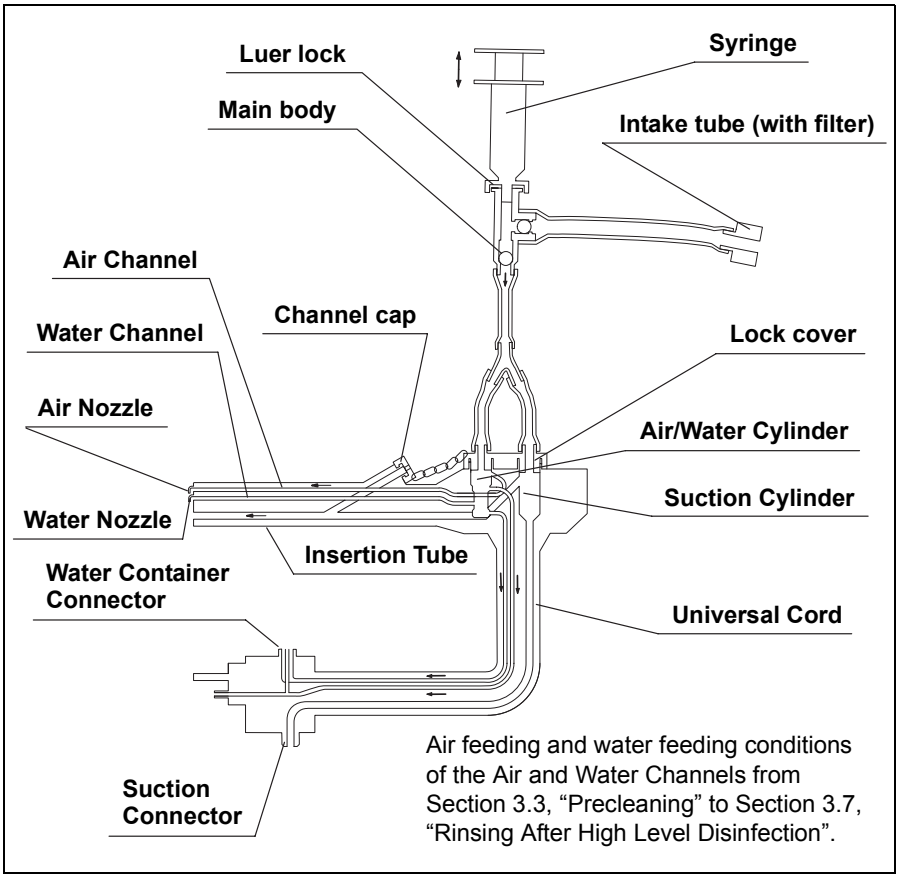


Figure 3.17

Soaking all Components in Detergent Solution

1. Using a clean, lint-free cloth, wipe all debris from the endoscope’s outer surface while the endoscope remains immersed in the detergent solution.
2. Cover the basin with a tight fitting lid.
3. Soak the endoscope and All-channel Irrigator (CW-3), for the amount of time and at the temperature recommended by the detergent manufacturer.

Removing and Rinsing the Endoscope and all Equipment

Remove the Endoscope and all equipment from the detergent solution and place in clean water.

Flushing the Detergent Solution From Channels

Using the All-channel Irrigator and 30 cm^3 (30 ml) syringe flush the Air/Water, Suction with clean water to expel detergent solution from the channels.

1. Attach the All-channel Irrigator to the Endoscope. Place the Filter of the Intake Tube in water (see "Flushing Detergent Solution Into Air/Water Channels" on page 31).
2. Attach the 30 cm^3 (30 ml) syringe to the All-channel Irrigator's Main Body and inject 30 cm^3 (30 ml) of clean water into the Air/Water and Suction Channel.
3. Remove the Endoscope together with the All-channel Irrigator from the water.
4. Using the 30 cm^3 (30 ml) syringe and the All-channel Irrigator to expel water from the Air/Water and Suction Channels. Repeat until water no longer sprays from the Distal End and the Suction Connector of the Light Guide Connector Section.
5. Disconnect All-channel Irrigator from the Endoscope.

Dry Outside Surfaces

1. Use a clean, lint-free cloth to thoroughly wipe dry the external surfaces of the Endoscope and All-channel Irrigator.
2. Visually inspect the endoscope for residual debris. Should debris remain, repeat the steps in Section 3.5, "Manual Cleaning".

Presoak for Excessive Bleeding and/or Delayed Reprocessing

CAUTION

Follow the steps below only in case of excessive bleeding and/or delayed reprocessing; unnecessary 10-hour immersion must be avoided. Consecutive extended immersions may damage the endoscope.

Preclean the endoscope by following the procedures described in Section 3.3, "Precleaning" and Section 3.4, "Leakage Testing".

1. Fill a basin with detergent solution at a temperature and concentration recommended by the manufacturer. Use a basin which is at least 40 cm by 40 cm (16" by 16") in size and deep enough to completely immerse the endoscope.

2. Carefully coil the endoscope's Insertion Tube, and Universal Cord, and completely immerse the endoscope in the detergent solution.

CAUTION

Do not coil Insertion Tube and Universal Cord with a diameter of less than 12 cm. Equipment damage can result.

3. Soak the endoscope for 10 hours at the temperature recommended by the detergent manufacturer.
4. Remove the endoscope from detergent solution.

After soaking the endoscope, manually clean the endoscope following the standard procedure described in Section 3.5, "Manual Cleaning", then disinfect or sterilize the endoscope following the procedures described in Section 3.6, "High Level Disinfection" or Section 3.8, "Sterilization".

3.6 High Level Disinfection

CAUTION

All disinfection steps should be performed with the endoscope and all equipment completely immersed. Otherwise, disinfectant solution may not adequately contact all surfaces of the equipment. As a result, the effectiveness of disinfection may be reduced.

After manual cleaning, disinfect the endoscope according to the procedure described below.

Equipment Needed

Prepare the following equipment:

- Personal Protective Equipment
- Lint-free Cloth
- Large Basin
- Disinfectant Solution
- All-channel Irrigator (CW-3)

Preparations

Fill a basin with disinfectant solution at the temperature and concentration specified on the manufacturer's label. Use a basin which is at least 40 cm by 40 cm (16" by 16") in size and deep enough to allow the endoscope to be completely immersed.

Attach the All-channel Irrigator to the Endoscope.

Flushing Disinfectant Solution Into all Channels

CAUTION

All disinfection steps should be performed with all equipment completely immersed. If the equipment is connected or disconnected while not immersed, disinfectant solution may not adequately contact all surfaces of the equipment, and the effectiveness of disinfection may be reduced.

1. Immerse the All-channel Irrigator's Filter in disinfectant solution. Using the 30 cm^3 (30 ml) syringe, flush the disinfectant solution into the Air/Water Channel and the Suction Channel until no bubbles exit from the Distal End.
2. With the Endoscope and the All-channel Irrigator completely immersed in disinfectant solution, detach the All-channel Irrigator from the Endoscope. Leave them to immersed in disinfectant solution.
3. Should air bubbles adhere to the surfaces of the Endoscope or All-channel Irrigator remove them using a clean, lint-free cloth.
4. Cover the disinfectant basin with a tight fitting lid to minimize the release of disinfectant vapor.

Soaking the Endoscope and Cleaning Equipment

Soak the endoscope and cleaning equipment for the amount of time and at the temperature recommended by the disinfectant manufacturer. It is recommended to use a timer to monitor soaking time.

Removing the Endoscope and Cleaning Equipment From Disinfectant Solution

1. Remove the endoscope and cleaning equipment from disinfectant solution. Attach the All-channel Irrigator to the Endoscope.
2. Remove the All-channel Irrigator's Filter from disinfectant solution.
3. Attach the 30 cm^3 (30 ml) syringe to the All-channel Irrigator's Main Body and flush the Air/Water and Suction Channels with 150 cm^3 (150 ml) of air.
4. Disconnect the All-channel Irrigator from the Endoscope.

3.7 Rinsing After High Level Disinfection

Use water of appropriate microbiological quality. Once removed from disinfectant solution, the instrument must be thoroughly rinsed with sterile water to remove any disinfectant residue. If sterile water is not available, fresh potable tap water or water which has been processed (e.g. filtered) to improve its microbiological quality may be used along with 70% ethyl or isopropyl alcohol rinse (see "If Non-sterile Water is Used" on page 38). Consult with your hospital's infection control committee.

Two rinse procedures are described below.

❍ If Sterile Water is Used

1. Immerse the endoscope and flushing equipment in sterile water. Using a clean, lint-free cloth, thoroughly rinse and wipe all external surfaces.
2. Inject sterile water into all channels according to the procedure described in "Flushing the Detergent Solution From Channels" on page 34.
3. Use a sterile lint-free cloth to thoroughly wipe and dry the external surfaces of the Endoscope, All-channel Irrigator.
4. Connect the All-channel Irrigator to the Endoscope. Using the 30 cm^3 (30 ml) syringe, flush 150 cm^3 (150 ml) of air through the Air/Water and Suction Channel.
5. Disconnect the All-channel Irrigator.

If Non-sterile Water is Used

CAUTION

Alcohol is flammable. Handle with care.

1. Inject non-sterile water and air following the procedure as shown “If Sterile Water is Used” on page 37.
2. Immerse the Filter of All-channel Irrigator in 70% ethyl or isopropyl alcohol. Using the 30 cm^3 (30 ml) syringe, flush the Air/Water Channel and the Suction Channel with 150 cm^3 (150 ml) of 70% ethyl or isopropyl alcohol, respectively.
3. Remove the Filter of All-channel Irrigator from the alcohol. Flush the Air/Water Channel and the Suction Channel with 150 cm^3 (150 ml) of air.
4. Disconnect the All-channel Irrigator from the Endoscope.
5. Plug the Light Guide Connector into the Light Source or MU-1.
6. Attach the previously disinfected AW Channel Cleaning Adapter to the Air/Water Cylinder.
7. Cover the Water Container connector with your finger and turn the Light Source Air Pump ON. If the Light Source has the Airflow Switch, set the switch to maximum (“HIGH” or “3”).
8. Depress and hold the AW Channel Cleaning Adapter for 30 seconds, then release the adapter for 30 seconds. Observe the opening at the Distal End of the endoscope; when water stops exiting, the channel is dry.
9. Turn off the Light Source Air Pump or MU-1. Remove the AW Channel Cleaning Adapter.
10. Attach a previously disinfected Biopsy Valve to the Instrument Channel Port. If the valve is damaged or worn, use a new valve.
11. Connect the Suction Tube and turn the Suction Pump ON. Cover the Suction Cylinder with your finger and air dry the Suction Channel for 15 seconds.
12. Turn the Suction Pump OFF. Remove the Biopsy Valve and the Suction Tube from the endoscope.
13. Use a sterile lint-free cloth to thoroughly wipe dry the external surfaces of the Endoscope and All-channel Irrigator.
14. Use a sterile lint-free cloth moistened with 70% ethyl or isopropyl alcohol to thoroughly wipe the external surfaces of the Endoscope and All-channel Irrigator.

15. Use clean cotton swabs to dry the inside of the Air/Water Cylinder, Suction Cylinder and Instrument Channel Port.

3.8 Sterilization

ETO Gas Sterilization

As an alternative to high-level disinfection, the endoscope can be sterilized by ethylene oxide gas. After performing the manual cleaning and drying as described in Section 3.3, “Precleaning” and Section 3.5, “Manual Cleaning”, follow the directions given below.

1. Seal the instrument in a package appropriate for ETO gas sterilization according to your hospital’s protocol.
2. Sterilize the instrument according to the recommended ETO Gas Exposure Parameters described in Section 2.5, “ETO Gas Sterilization” and the sterilizer manufacturer’s instructions.
3. Aerate the components following the Minimum Aeration Parameters specified in Section 2.5, “ETO Gas Sterilization”.
4. Store the components following the instructions given in Chapter 5, “Storage and Disposal”.

3.9 Cleaning, Disinfection and Sterilization Procedures for Removable Parts and Cleaning Equipment

This section includes the cleaning, disinfection and sterilization procedures for removable parts and cleaning equipment. For all other parts, refer to their respective instruction manuals. For the All-channel Irrigator, clean, disinfect and sterilize it while cleaning, disinfecting and sterilizing the endoscope.

- Air/Water Valve (MB-196)
- Suction Valve (MB-197)
- Biopsy Valve (MB-358)
- AW Channel Cleaning Adapter (MB-107)
- Channel Cleaning Adapter (MB-19)
- Channel Cleaning Brush (BW-20T)
- Channel Opening Cleaning Brush (MH-507)
- All-channel Irrigator (CW-3)

Manual Cleaning

1. Immerse all the parts and equipment in a basin of detergent solution prepared according to the manufacturer's instructions. For the Biopsy Valve (MB-358), remove the cover from the body before immersion.

CAUTION

Make sure that the items immersed in detergent solution do not contact one another. In particular, make sure not to scratch the seals on the Air/Water Valve and AW Channel Cleaning Adapter with brushes, etc.

2. Using a clean, soft brush or lint-free cloth, meticulously clean the outer surfaces in detergent solution. Clean the bristle of the cleaning brushes (BW-20T and MH-507) thoroughly while brushes are immersed. While immersed, depress and release the pistons of the Air/Water Valve, Suction Valve and AW Channel Cleaning Adapter to ensure that detergent solution contacts all crevices and surfaces of the valves.
3. Using the Channel Cleaning Brush (BW-20T), thoroughly brush openings of the Suction Valve and the Air/Water Valve until no debris can be seen. Clean the bristles and crevices of the brush while it is immersed in detergent solution.
4. Using the 30 cm^3 (30 ml) syringe, flush the interior and recessed parts of the Biopsy Valve and while it is immersed in detergent solution.

5. To clean the Channel Cleaning Adapter, attach the 30 cm^3 (30 ml) syringe to the Biopsy Valve connector and flush the tube thoroughly with detergent solution.
6. Soak all the parts and equipment for the amount of time and at the temperature recommended by the detergent manufacturer.
7. Remove them from detergent solution and place in clean water.
8. Visually inspect them. If debris remains, ultrasonically clean at 38 to 47 kHz for 5 minutes.
9. While immersed, depress and release the pistons of the valves and AW Channel Cleaning Adapter.
10. Attach the 30 cm^3 (30 ml) syringe to the Channel Cleaning Adapter and flush the tube with clean water.
11. Remove all the parts and equipment from clean water.
12. Attach the 30 cm^3 (30 ml) syringe to the Channel Cleaning Adapter and flush air to remove water from the inside of the tube.
13. Wipe and dry their outer surfaces a clean lint-free cloth.

High Level Disinfection

1. Adjust the concentration and temperature of disinfectant solution according to the manufacturer's instructions.
2. Immerse all the parts and equipment in a basin containing disinfectant solution.
3. While immersed, depress and release the pistons of the valves and AW Channel Cleaning Adapter to ensure that disinfectant solution contacts all internal surfaces of the valves. Using the 30 cm^3 (30 ml) syringe, flush the openings and crevices with disinfectant solution to remove all air bubbles.
4. Rub the bristles of the cleaning brushes to ensure that all air bubbles are removed.
5. Using the 30 cm^3 (30 ml) syringe, flush the interior and recessed parts of the Biopsy Valve while the valve is immersed.
6. Attach the 30 cm^3 (30 ml) syringe to the Channel Cleaning Adapter and flush the tube with disinfectant solution. Ensure that all air bubbles are expelled.
7. Using a clean, lint-free cloth, wipe away any air bubbles adhering to surfaces.

8. Soak all the parts and equipment for the amount of time and at the temperature recommended by the disinfectant manufacturer.

Rinsing After High Level Disinfection

Once removed from disinfectant solution, the instrument must be thoroughly rinsed with sterile water to remove any disinfectant residue. If sterile water is not available, fresh potable tap water or water which has been processed (e.g. filtered) to improve its microbiological quality may be used in conjunction with an alcohol flush. Consult with your hospital's infection control committee.

If non-sterile water is used for rinsing, all the parts and equipment must be wiped and flushed with 70% ethyl or isopropyl alcohol.

If Sterile Water is Used

1. Remove the Channel Cleaning Adapter from the basin of disinfectant solution and attach the 30 cm^3 (30 ml) syringe. Flush air to expel all disinfectant solution. Immerse in a basin of sterile water.
2. Remove the remaining parts equipment from disinfectant solution and immerse them in the sterile water.
3. While they are immersed in the sterile water, depress and release the pistons of the valves and AW Channel Cleaning Adapter.
4. Attach the 30 cm^3 (30 ml) syringe to the Channel Cleaning Adapter and flush sterile water through the tube.
5. Gently agitate all the parts and equipment to thoroughly rinse.
6. Remove them from sterile water.
7. Attach the 30 cm^3 (30 ml) syringe to the Channel Cleaning Adapter and flush air to remove water from the inside of the tube.
8. Wipe and dry their outer surfaces with a sterile lint-free cloth.

❍ If Non-sterile Water is Used

CAUTION

Alcohol is flammable. Handle with care.

1. Inject non-sterile water and air following the procedure as shown “If Sterile Water is Used” on page 42.
2. Fill a small container with 70% ethyl or isopropyl alcohol.
3. Using a 30 cm^3 (30 ml) syringe, flush the alcohol through the Channel Cleaning Adapter.
4. Immerse all parts in the alcohol. While immersed, depress and release the pistons of the valves and AW Channel Cleaning Adapter.
5. Remove all parts from the alcohol.
6. Attach the 30 cm^3 (30 ml) syringe to the Channel Cleaning Adapter and flush air to remove the alcohol from the inside of the tube.
7. Wipe off dry excess alcohol with a clean, lint-free cloth.

Sterilization

❍ ETO Gas Sterilization

CAUTION

The Channel Cleaning Brushes and Channel-opening Cleaning Brush are not compatible with ETO gas sterilization.

After cleaning and drying as described in “Manual Cleaning” on page 40, follow the directions given below.

1. Before sterilization, the parts and equipment must be thoroughly cleaned and dried.
2. Seal the individual parts or equipment in packages appropriate for ETO gas sterilization according to your hospital’s protocol.
3. Sterilize the instrument according to the recommended ETO Gas Exposure Parameters described in Section 2.5, “ETO Gas Sterilization” and the sterilizer manufacturer’s instructions.
4. Aerate the components following the minimum aeration parameters specified in Section 2.5, “ETO Gas Sterilization”.
5. Store the components following the instructions given in Chapter 5, “Storage and Disposal”.

Steam Sterilization (Autoclaving)

After cleaning as described in “Manual Cleaning” on page 40, steam sterilize according to the instructions given below.

1. Before sterilization, the parts or equipment must be thoroughly cleaned and dried. Residual moisture inhibits sterilization.
2. Seal the individual parts or equipment in packages appropriate for steam sterilization (autoclaving) according to your hospital’s protocol.
3. Steam sterilize the instrument according to the parameters described in Section 2.6, “Steam Sterilization (Autoclaving) of Accessories” and the sterilizer manufacturer’s instructions.
4. Following steam sterilization (autoclaving), let all components gradually cool down to room temperature. Sudden changes in temperature may damage the instruments.

Chapter 4 Washing and Disinfection Equipment

4.1 Washing and Disinfection Equipment

The endoscope is compatible with some endoscope reprocessors recommended by Olympus. Refer to the instruction manual of endoscope reprocessor for details on operation.

WARNING

- Thoroughly clean the endoscope as described in Chapter 3, “Cleaning, Disinfection and Sterilization Procedures” before cleaning and disinfection of an endoscope in an endoscope reprocessor. If the endoscope reprocessor is used with an endoscope with a large amount of debris attached to it, cleaning and disinfection may pose an infection-control risk to the patients and/or operators who perform the next procedure with it. Note that cleaning of the endoscope becomes difficult if debris is allowed to solidify because of a delay before cleaning following the procedure. Refer to the instruction manual of endoscope reprocessor for details.

- Olympus confirms validation of the endoscope reprocessors recommended by Olympus only. If using endoscope reprocessor that are not recommended by Olympus, the endoscope reprocessor manufacturers are responsible for validation of the endoscope reprocessor with the endoscope models listed in its intended use statement. If using an endoscope reprocessor, confirm that it is capable of reprocessing endoscope including all channels. If there are channels and/or other parts which cannot be cleaned and high-level disinfected by the endoscope reprocessor, have to undergo manual cleaning and high-level disinfection or sterilization as described in Chapter 3, “Cleaning, Disinfection and Sterilization Procedures” after using the endoscope reprocessor. Otherwise, insufficient cleaning and disinfection or sterilization of the endoscope may pose an infection control risk to the patient and/or operators performing the next procedure with the endoscope. If you are uncertain as to the ability of your endoscope reprocessor to clean and high-level disinfect endoscope including all channels, contact the endoscope reprocessor supplier for specific instructions and/or connectors.
- Use connectors special to each model when cleaning and disinfecting the endoscope with the endoscope reprocessor. Otherwise, insufficient cleaning and disinfection or sterilization of the endoscope may pose an infection control risk to the patient and/or operators performing the next procedure with the endoscope. The applicable connectors for each endoscope model should be listed in the automated endoscope reprocessor instruction manual. If your endoscope model is not listed in this table, please contact the manufacturer of the endoscope reprocessor.

Chapter 5 Storage and Disposal

5.1 Storage

CAUTION

- The storage cabinet must be clean, dry, well ventilated and maintained at ambient temperature. Storing the endoscope in direct sunlight, at high temperatures, in high humidity or exposed to X-rays and ultraviolet-rays may damage the endoscope or present an infection control risk.
- Prior to storage, detach all removable parts from the endoscope. Removing the Air/Water Valve, Suction Valve, and Biopsy Valve will allow air to circulate through the internal lumens of the endoscope and will assist drying.
- Do not store the endoscope in the Carrying Case. Use the Carrying Case only for shipping the endoscope. Routinely storing the endoscope in a humid, non-ventilated environment, such as the Carrying Case, may present an infection control risk.

1. Before storage of a high-level disinfected endoscope, thoroughly dry all parts of the endoscope (especially all internal lumens, the Distal End, lenses and electrical contacts) and all accessories (e.g. biopsy forceps).
2. Use a cotton swab moistened with 70% ethyl or isopropyl alcohol to carefully remove any film covering the light guide glass on the Distal End.
3. Place the endoscope's Angulation Locks in the "F▶" (or Free) position.
4. Hang the endoscope in the storage cabinet with the Distal End hanging freely. Make sure that the Insertion Tube hangs vertically and as straight as possible.

5.2 Disposal

When disposing of the endoscope, or any of its components (such as valves), follow all applicable national and local laws and guidelines.

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Printed in Japan 20070202 *0000